DYNAMIC MATERIALS INSPIRED BY CEPHALOPODS
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Cephalopods (squid, octopuses, and cuttlefish) have captivated the imagination of both the general public and scientists for more than a century due to their visually stunning camouflage displays, sophisticated nervous systems, and complex behavioral patterns. Given their unique capabilities and characteristics, it is not surprising that these marine invertebrates have recently emerged as exciting sources of inspiration for the development of novel materials. Within this context, our laboratory has explored the properties of structural proteins known as reflectins, which play crucial roles in the functionality of cephalopod skin cells. In this talk, I will discuss our work on photonic and protonic devices fabricated from cephalopod-derived and cephalopod-inspired materials. Our findings hold implications for the development of adaptive camouflage systems, sensitive bioelectronic platforms, and renewable energy technologies.

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